UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,037	04/20/2004	Jerome M. Meyer	X-1662 US	7412

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EXAMINER
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ART UNIT	PAPER NUMBER
4177	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/829,037	MEYER, JEROME M.
	Examiner	Art Unit	
	Ashley L. Shivers	4177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *21-27* is/are allowed.

6) ☒ Claim(s) *1-20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *20 April 2004* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *4/20/2004*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-2, 7-12 and 17-20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the Applicant Admitted Prior Art, hereinafter referred to as AAPA.

Regarding claim 1, the AAPA discloses a method of performing multi-level

comma detection and alignment on an unaligned data stream (**See AAPA Fig. 1 Prior**

Art), the method comprising:

receiving the unaligned data stream (**See AAPA Fig. 1 Prior Art; [0021]**

lines 1-2);

comparing each N consecutive bits in the unaligned data stream with a

predetermined byte value having N bits, where N is an integer (**See AAPA Fig. 1**

Prior Art; [0022] lines 1-4);

comparing Q consecutive data bytes in the partially aligned data stream

with a predetermined sequence of byte values where Q is an integer (**See AAPA**

Fig. 3 Prior Art; [0024] lines 3-6]); and

The AAPA claims the above limitations of claim 1 but fails to explicitly state the

following two limitations:

aligning, when a first set of N consecutive bits matches the predetermined

byte value, the unaligned data stream based on a position of the predetermined

byte value within the unaligned data stream to provide a partially aligned data

stream; and

aligning, when a first set of Q consecutive bytes matches the

predetermined sequence of byte values, the partially aligned data stream based

on a position of the first set of Q consecutive bytes within the partially aligned

data stream to provide a fully aligned data stream.

Therefore it would have been obvious to one of ordinary skill in the art at the

time of the invention to add the above two limitations, because it was known in the art

that aligning data when the match is found allows for the data packets to become

arranged and from there they can then be separated correctly.

Regarding claim 2, the AAPA further discloses the method of Claim 1, wherein

comparing Q consecutive data bytes comprises comparing each Q consecutive data

bytes within the partially aligned data stream at least until a first match is found (**See**

AAPA Fig. 3 Prior Art; [0024] lines 3-5 and [0022] lines 7-11).

Regarding claim 7, the AAPA further discloses the method of Claim 1, wherein

N is eight (**See AAPA Fig. 1 Prior Art; [0021] lines 5-8**).

Regarding claim 8, the AAPA further discloses the method of Claim 7, wherein Q

is four (**See AAPA Fig. 3 Prior Art; [0024] lines 3-5 wherein 32 bits equals 4 bytes**).

Regarding claim 9, the AAPA further discloses the method of Claim 1, wherein Q

is four (**See AAPA Fig. 3 Prior Art; [0024] lines 3-5 wherein 32 bits equals 4 bytes**).

Regarding claim 10, the applicant admitted art further discloses the method of

Claim 1, wherein:

the unaligned data stream conforms to a SONET communications

standard (**See AAPA Fig. 2 Prior Art; [0023] lines 1-7**);

the predetermined byte value is A2 as defined by the SONET standard

(**See AAPA Fig. 2 Prior Art; [0023] lines 1-7**); and

the predetermined sequence of byte values is A1_A1_A2_A2 as defined by

the SONET standard (**See AAPA Fig. 2 Prior Art; [0023] lines 1-7**).

Regarding claim 11, the AAPA further discloses a circuit, comprising:

means for receiving an unaligned data stream (**See AAPA Fig. 1 Prior Art;

[0021] lines 1-2**);

means for comparing each N consecutive bits in the unaligned data stream with a predetermined byte value having N bits, where N is an integer **(See AAPA Fig. 1 Prior Art; [0022] lines 1-4)**;

means for comparing Q consecutive data bytes in the partially aligned data stream with a predetermined sequence of byte values, where Q is an integer **(See AAPA Fig. 3 Prior Art; [0024] lines 3-6])**; and

The AAPA claims the above limitations of claim 11 but fails to explicitly state the following two limitations:

means for aligning, when a first set of N consecutive bits matches the predetermined byte value, the unaligned data stream based on a position of the predetermined byte value within the unaligned data stream to provide a partially aligned data stream; and

means for aligning, when a first set of Q consecutive bytes matches the predetermined sequence of byte values, the partially aligned data stream based on a position of the first set of Q consecutive bytes within the partially aligned data stream to provide a fully aligned data stream.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add the above two limitations, because it was know in the art that aligning data when the match is found allows for the data packets to become arranged and from there they can then be separated correctly.

Regarding claim 12, the AAPA further discloses the circuit of Claim 11, wherein

the means for comparing Q consecutive data bytes comprises means for comparing

each Q consecutive data bytes within the partially aligned data stream at least until a

first match is found (**See AAPA Fig. 3 Prior Art; [0024] lines 3-5 and [0022] lines 7-11**).

Regarding claim 17, the applicant admitted art further discloses the circuit of

Claim 11, wherein N is eight (**See AAPA Fig. 1 Prior Art; [0021] lines 5-8**).

Regarding claim 18, the AAPA further discloses the circuit of Claim 17, wherein

Q is four (**See AAPA Fig. 3 Prior Art; [0024] lines 3-5 wherein 32 bits equals 4 bytes**).

Regarding claim 19, the AAPA further discloses the circuit of Claim 11, wherein

Q is four (**See AAPA Fig. 3 Prior Art; [0024] lines 3-5 wherein 32 bits equals 4 bytes**).

Regarding claim 20, the applicant admitted art further discloses the circuit of

Claim 11, wherein:

the unaligned data stream conforms to a SONET communications

standard (**See AAPA Fig. 2 Prior Art; [0023] lines 1-7**);

the predetermined byte value is A2 as defined by the SONET standard

(**See AAPA Fig. 1 Prior Art; [0023] lines 1-7**); and

the predetermined sequence of byte values is A1_A1_A2_A2 as defined by

the SONET standard (**See AAPA Fig. 1 Prior Art; [0023] lines 1-7**).

3.   Claims 3, 6, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over the AAPA in view of Ambrose et al. (**U.S. Patent No. 7,230,956**), hereinafter

referred to as Ambrose.

Regarding claims 3 and 13, the AAPA teaches the limitations of the

method/circuit of claims 1 and 11, respectively, but fails to teach of generating a second

value identifying a position of the predetermined byte value within the partially

aligned data stream.

Ambrose teaches the method/circuit of claims 1 and 11, further comprising

generating a second value identifying a position of the predetermined byte value within

the partially aligned data stream, and wherein comparing Q consecutive data bytes

comprises utilizing the second value to identify a comparison to perform that includes

the predetermined byte value (**See col. 7 lines 31-35**).

Therefore it would have been obvious to one of ordinary skill in the art at the

time of the invention, to modify the method/circuit of the AAPA to include generating

a second value identifying a position of the predetermined byte value within the

partially aligned data stream taught by Lecourtier in order to indicate the second

portion of the SONET stream.

Regarding claims 6 and 16, the AAPA teaches the limitations of the

method/circuit of claims 1 and 11, respectively, but fails to teach of aligning the

partially aligned stream with a center point of the determined byte values.

Ambrose teaches the method/circuit of claims 1 and 11, wherein aligning the

partially aligned data stream comprises aligning the partially aligned data stream with

a center point of the predetermined sequence of byte values (**See col. 7 lines 63-66**).

Therefore it would have been obvious to one of ordinary skill in the art at the

time of the invention, to modify the method/circuit of the AAPA to include aligning the

partially aligned data stream with a center point of the predetermined byte value taught

by Ambrose in order to indicate where the break in the frames (A1 and A2) occur.

4.   Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

the AAPA in view of Lecourtier et al (**U.S. Patent No. 6, 560,275**), hereinafter referred to

as Lecourtier.

Regarding claims 4 and 14, the AAPA teaches of the limitations of the

method/circuit of claims 1 and 11, respectively, but fails to teach of aligning the

unaligned data stream with the preceding and following edges of the predetermined

byte value.

Lecourtier teaches the method/circuit of claims 1 and 11, wherein aligning the unaligned data stream comprises aligning the unaligned data stream with preceding and following edges of the predetermined byte value (**See Fig. 11a and 11b; col. 11 lines 33-35**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/circuit of the AAPA to include aligning the unaligned data stream with the preceding and following edges of the predetermined byte value taught by Lecourtier in order to indicate where each of the frames begin and end.

5.   Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Lecourtier, as applied to claims 4 and 14 above, and in further view of Ambrose.

Regarding claims 5, and 15, the AAPA in view of Lecourtier teaches the limitations of the method/circuit of claims 4 and 14, respectively, but fails to teach of aligning the partially aligned stream with a center point of the determined byte values.

Ambrose teaches the method/circuit of claims 4 and 14, wherein aligning the partially aligned data stream comprises aligning the partially aligned data stream with a center point of the predetermined sequence of byte values (**See col. 7 lines 63-66**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/circuit of the AAPA in view of Lecourtier to include aligning the partially aligned data stream with a center point of the predetermined byte value taught by Ambrose in order to indicate where the break in the frames (A1 and A2) occur.

Allowable Subject Matter

6.   Claims 21-27 are allowed. Claims 21-27 appear to be novel and inventive because prior art fails to show or teach the pipeline registers, compare circuits, alignment circuits, and multiplexers as directly recited and detailed in independent claim 21.

Conclusion

7.   Any response to this action should be **faxed** to (571) 273-8300 or **mailed** to:

> Commissioner of Patents,
> P.O. Box 1450
> Alexandria, VA 223103-1450
>
> **Hand delivered responses should be brought to:**
> Customer Service Window
> Randolph Building
> 401 Dulany Street
> Alexandria, VA 22314

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashley L. Shivers whose telephone number is (571) 270-3523. The examiner can normally be reached on Monday-Thursday 8:30-7:00 EST.
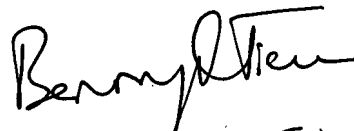
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AS
Art Unit 4177
10/12/2007

BENNY Q. TIEU